Table 3.2.1. Associations observed when community metrics from the rockbag macroinvertebrate data were plotted against the percent total impervious area (PTIA) values for the subwatersheds above each of the sampling sites (Figs. 3.2.5a-e). Letters (a-e) in parentheses refer to the particular figure being discussed. The letters "nct" indicate that no clear trend was apparent. (Note: Although some trends were observed in the data, it is important to recognize the relatively small number of sites in the plots, especially when examining within-stream trends.)

Community Metric	Associations Found When Examining All Sites ?	Associations Observed Between Red Brook (RB) and PTIA ?	Associations Observed Between Long Creek mainstem (LC-M) and PTIA ?
Statutory Class (a)	Above PTIA of 15 %, all sites were Class C.	nct	nct
Model Outcome; Prob. Class B or Better; Prob. Class A or Better (a)	The only site having a model outcome better than "C" was RB-3.961	nct	nct
Total Abundance (b)	nct	nct	Total abundance decreased as PTIA increased.
Generic Richness (b)	nct	Generic richness decreased as PTIA increased.	
Ephemeroptera Abundance (b)	nct	nct	Ephmeroptera abundance decreased as PTIA increased.
Plecoptera Abundance (b)	The only site which had stoneflies was RB-3.961, the site which had the lowest PTIA.	nct	nct
Shannon-Weiner Diversity (b)	nct	Decreased as PTIA increased.	nct
Hilsenhoff Biotic Index (b)	Above PTIA of 15% all HBI values were > 6.	nct	nct
Relative Abundance Chironomidae (c)	nct	Decreased as PTIA increased.	Increased (slightly) as PTIA increased.
Relative Richness of Diptera (c)	nct	Decreased as PTIA increased.	nct
Hydropsyche Abundance (c)	nct	Decreased as PTIA increased.	Increased as PTIA increased.
Cheumatopsyche Abundance (c)	nct	nct	nct
EPT Generic Richness / Diptera Richness (c)	nct	Increased as PTIA increased.	nct
Relative Abundance of Oligochaeta (c)	nct	Decreased as PTIA increased (rough trend).	Decreased as PTIA increased (rough trend).
Perlidae Abundance (d)	nct	nct	nct
Tanypodinae Abundance (d)	nct	nct	nct

Table 3.2.1. cont'd.

Community Metric	Associations Found When Examining All Sites ?	Associations Observed Between Red Brook (RB) and PTIA ?	Associations Observed Between Long Creek mainstem (LC-M) and PTIA ?
Chironomini Abundance (d)	nct	Decreased slightly as PTIA increased.	nct
Relative Abundance Ephmeroptera (d)	nct	Increased as PTIA increased.	nct
EPT Generic Richness (d)	Decreased as PTIA increased (a rough trend).	Decreased as PTIA increased.	nct
Summed Abundance DMPH (d)	Decreased as PTIA increased (a rough trend).	Decreased as PTIA increased.	Decreased as PTIA increased.
Relative Richness Plecoptera (e)	Plecoptera only found at PTIA < 3%.	nct	nct
Summed Abundances AS (e)	Decreased as PTIA increased (a rough trend).	Decreased as PTIA increased.	nct
EP Generic Richness/14 (e)	Decreased as PTIA increased (a rough trend).	nct	nct
Dominant A Taxa/5 (e)	Decreased as PTIA increased (a rough trend).	nct	nct
Presence A Indicator Taxa (e)	Decreased as PTIA increased (a rough trend).	nct	nct

Table 3.2.2. A habitat/ecology assessment of various taxa found in rockbag data for the study streams plus some nearby sandy reference streams.
1= Reference sites for this table included the two upper Red Brook sites plus a number of other sandy, relatively unimpacted streams in southern Maine.
2= This table is primarily insects, except for Amphipoda, which are crustaceans.

Order	Family	Genus (Species)	Ecology	Occurrence In Reference Sandy Streams	Occurrence In Upper Red Brook Site*	Occurrence In Long Creek Sites
Genera associated with sandy southern Maine reference-type streams						
Plecoptera	Leuctridae	*Leuctra*	Variable, many species; lotic erosional-depositional; probable cold-water obligate; feeding charachteristics: detrivore? /unknown	YES - All selected sandy reference streams	YES - RB-above	NO
Trichoptera	Odontoceridae	*Psilotreta*	Lotic erosional and depositional; sprawler, burrower, scraper, collector-gatherer primariliy plant material	YES - Cole Bk.; Branch Bk.; Goosefare Bk.; Eddy Bk.	YES - RB-above	NO
Ephemeroptera	Leptophlebiidae	*Paraleptophlebia debilis* (Cole Bk. Spp.)	Burrower in loosely sorted large fines; collected down to 10 cm *(from Burian)* [clean flushed sands?]	YES - all selected sandy reference streams	YES - RB-above	NO
Diptera	Chironomidae	*Heterotrissocladius*	Associated with ultra-oligotrophic lakes; also occurs in clear streams *(from Wiederholm)*	YES - Goosefare Bk.; Cooks; Eddy	YES - RB-above	NO
Diptera	Chironomidae	*Stempellinella*	Wide range of flows - lotic erosional, lentic littoral	YES - log 797	YES - RB-above	YES - LC- Sable Oaks
Genera associated with Long Creek but not occurring in reference streams[1]						
Amphipoda[2]		*Hyalella & Crangonyx*		NO	NO	logs 849, 850, 851, 852, 854
Ephemeroptera	Caenidae	*Caenis*	Depositional, low velocity in fine organic substrates among rooted macrophytes, "nymphs often covered in organic debris" *(from Burian)*	NO	NO	logs 849, 850, 851, 852, 853, 854, 855, and RB-HQ
Coleoptera	?	*Dubiraphia*	Lentic and lotic on submerged macrophytes			

Other notes

Long Creek-N (VTEC-LW; log 850) --- (*Hyalella* 20%; *Physella* 11%; *Procladius* 15% [prefers muddy substrates]; *Ptilostomis* 7.4%; *Limnephilus* 6% [many spp., wide variety of habitats, drought tolerant diapause stage w/ adaptations for extreme events])

versus

Cole Brook (log 809) --- (Richness = 52; EPT = 19; *Paraleptophlebia debilis* 27%; *Baetis tricaudatis* 15% [most abundant in clumped CPOM, some in poorly sorted gravel and erosional areas of riffles and transitional areas of runs; most in 1st odrer tributaries [from Burian]]; Leuctra 13%)